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PETRIFIED FOREST  
ARIZONA

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# Petrified Forest

*Arizona*

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*Arizona*

*Atchison, Topeka and Santa Fe*



# The Petrified Forest of Arizona



STOP-OVER of one to two days at Adamana, on the Santa Fe Line, in Arizona, will permit the traveler to view one of the few natural wonders that "comes up to its brag." In this category is the Petrified Forest. As the Grand Canyon of Arizona surpasses in extent and grandeur all other canyons in the world, so the Petrified Forest of Arizona transcends in variety of coloring and in extent all other similar deposits in the world.

Silicified wood is found on the East Fork of the Yellowstone and on the high plateaus of southern Utah. Small segments of trees (chips of the ancient blocks) are scattered throughout northern Arizona. But, as if laid bare for the delight of the tourist and the research of the scientist, there are huddled together in Apache County, Arizona, vast deposits of petrified wood, from the size of a toy marble to trees more than two hundred feet in length. It would be more frequently visited if the traveling public were better acquainted with the facilities for getting there.

The Forest covers many thousands of acres, in five separate tracts, all easily accessible from Adamana. The Third Forest is also reached from Holbrook.

## Ample Accommodations



Hotel Accommodations at Adamana



The First Forest, noted for its bright colors, is distant about six miles from Adamana (altitude, 5,277 feet). It is easily reached in an hour and a half. The journey may be made in a leisurely fashion, starting late in the morning and returning at dusk, with an hour en route for inspection of the Hieroglyphic Rocks and Aztec Ruins, and plenty of time to see the Second Forest, too. The chief object of interest is the Natural Log Bridge, which spans a chasm sixty feet wide—a trunk of jasper and agate overhanging a tree-fringed pool. The Eagle's Nest, Snow Lady and Dewey's Cannon are in this locality.

The Second Forest is two and one-half miles due south of the first one, the trip requiring thirty minutes each way. It contains about two thousand acres. The trees are mostly intact, large, and many of them highly-colored. The Twin Sisters are an interesting sight here.

The Third Forest covers a greater area than the others. It lies thirteen miles southwest of Adamana and eighteen miles southeast of Holbrook. This district contains several hundred whole trees, some of them more than two hundred feet long, partly imbedded in the earth. These huge unshattered blocks of agate are magnificent specimens. The colors are very striking, comprising every tint of the rainbow. The local name of "Rainbow" Forest is therefore very appropriate.



Hotel Brunswick, Holbrook



A Final Snag Shot, Second Forest

## The North Sigillaria Forest

The Blue Forest (smallest of the five) is seven miles east of Adamana, being one of the two districts discovered by John Muir. It is noted for the blue tints of its trees.

The North Sigillaria Forest, a new "find," is nine miles north from Adamana, and contains many finely preserved specimens of the carboniferous period, some of the stumps still standing as they grew. This Forest is located on the bottom and sides of a shallow, wide canyon, with buttes and mesas of different colored clays and rocks. One fallen monarch is 147 feet long. A wide view of the Painted Desert may be had here. On the way an Indian ruin is passed, two miles out.

The round trip from Adamana to either of the two Forests last named requires about four hours' time, though if one is in a hurry, all the Forests except the Third may be visited by auto in one day.

Except the small hotel, railway station and store there are few buildings at Adamana. Mr. Chester B. Campbell has charge of the hotel and livery accommodations. The hotel has sanitary plumbing, with hot and cold water. Board and lodging may be had at \$2.50 a day. Thirty-five guests can be accommodated here with rooms and meals; in summer tents also are provided for guests.

The round-trip fare to the First and Second Forests and Natural Bridge is \$5.00 for one person, \$3.00 each for two persons,

THE LARGEST TREES IN THE WORLD

Many of these are Seen



One of the Largest Trees in Third Forest

## Broken Sections of Tree Trunks



Sections of Big Tree Trunks, First Forest

## Information About the Cost

and \$2.50 each for three or more. The trip requires one day's time and the choice of automobile or team is optional; the price is the same.

To the Third, Blue, or North Sigillaria Forests and Painted Desert the fare is the same as to the First and Second Forests.

To the Hieroglyphics and Aztec Ruins the fare is \$1.00 for one person, 75 cents each for two and 50 cents each for three or more. Special arrangements can be made to include these points in the trip to the First and Second Forests.

Teams or autos are provided for a hundred persons. Notice in advance to Mr. Chester B. Campbell at Adamana, owner of livery, will insure the proper handling of large excursion parties. New equipment this season.

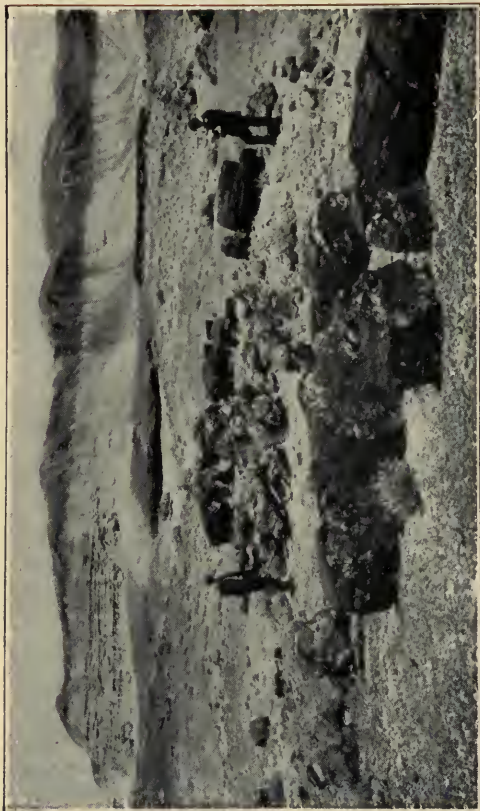
Mr. Campbell also equips camping parties for the Hopi and Navajo Indian Reservations, and for a few days' trip into the Painted Desert.

Holbrook has satisfactory hotel accommodations. Rooms may be obtained at \$1.00 per day, and meals at 50 cents each.

Livery is furnished by S. D. Smith.

The Ford Garage and Northern Arizona Transportation Co. operate auto lines.

Round trip to Third Forest requires about half a day. En route are prehistoric ruins and hieroglyphics. The cost of the trip by auto, out and back, is \$10.00 for one to three persons, and \$2.50 for each additional passenger.



A Typical Scene in the First Forest

Wagon fares are on a reasonable basis. Fifty cents extra per passenger is charged for the Cliff Dwellings and Hieroglyphics, if visited on the way to the Third Forest.

The Petrified Forest may be visited any day in the year, except when high water renders the streams temporarily impassable.

Leaving the steel highway of the Santa Fe, it is a southerly journey across arid mesas on a smooth road, full in the glowing Arizona sunshine. The four-horse, twelve-passenger coach or auto is easy to ride in. The route is along a natural highway, in places hard-packed by vagrant winds and frequent travel. No grass, except stray tufts overlooked by foraging sheep. No human habitations, far as the eye can reach. Just rocks, and sand, and sky, with an occasional prehistoric Indian village ruin, or lava fragments belched centuries ago from now extinct volcanoes.

Both Adamana and Holbrook are contiguous to the Navajo Indian reservation. Holbrook is an outfitting point for the Apache country. A stage leaves daily for the White Mountain reservation, where lies Fort Apache, in the midst of picturesque mountain scenery. The unique villages of the Hopi Indians are situated about eighty miles north. En route to Hopiland you cross the Painted Desert, where live the Navajos.

Stop-overs are allowed at both Adamana and Holbrook, not to exceed ten days, on all

## Liberal Stop-over Privileges

one-way, first and second-class tickets, also on round-trip tickets within their limits.

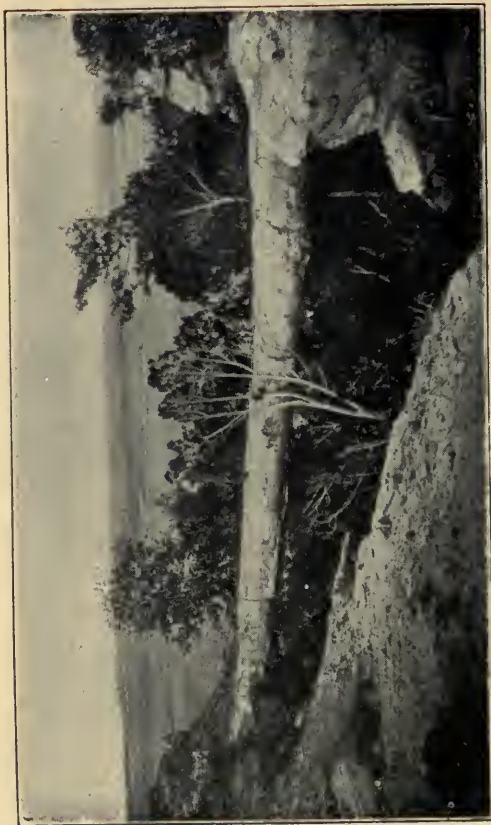
Stop-overs are also allowed on Pullman tickets, except that reservations cannot be made on the California Limited to or from Holbrook.

To obtain stop-overs on one-way railroad tickets, notify train conductor and deposit tickets with Agent immediately after arrival; on round-trip tickets notify train conductor.

To obtain stop-over on Pullman tickets, when authorized, notify Pullman Conductor.

Visitors to the Columbian Exposition marveled at the polished slabs and huge trunks of agatized trees, little thinking them to be trees turned into stone. At Tiffany's, in New York, may be seen a huge slab of petrified wood which has been subjected to the art of the lapidary. Most persons think it is polished marble or onyx. Few realize that it is a slice of a giant tree that was one of a prehistoric forest in a section of our country, 2,500 miles from the metropolis. And how few Americans have ever actually walked in this dead and buried forest that through the uncounted years has been giving up its dead! Wind and rain and whirling sand all have combined to lay bare this treasure house of the past, for such it really is. So one may now wander for days in aisles that were once cool and green, but now bare and white.

## The Most Unique Sight



The Notable Petrified Bridge, First Forest

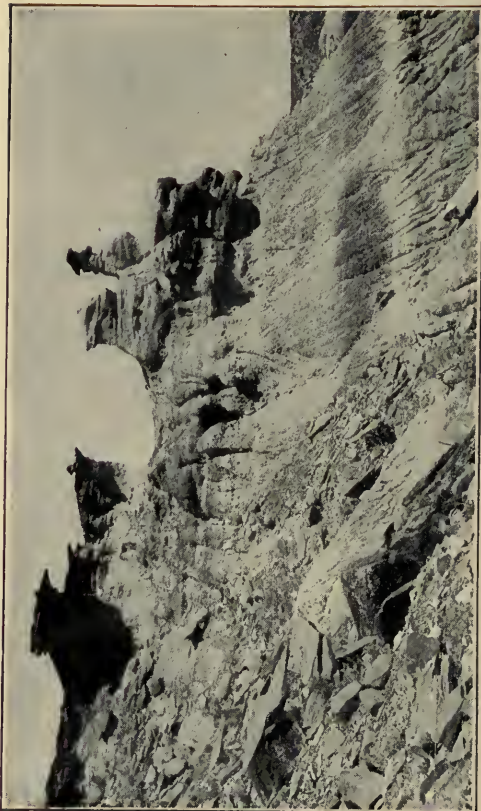
## Like Polished Onyx

What human interest attaches to every foot of the ground! What race of men knew the living forest! What birds sang in its swaying boughs! What creatures browsed beneath its protecting arms! What shock of earth brought low these monarchs, stately pine and giant oak! Were they petrified where they fell, or did they float out on the tide of a forgotten sea? A thousand questions press in upon the tourist as he views these relics of another age.

It is truly God's Acre, but lacking the shrouds, for the ancient trees live again in adamant and agate of every conceivable color. Approaching the deposits from Adamana or Holbrook, you are quickly attracted by stray bits of petrified wood that glisten like jewels by the roadside. You soon espy larger and larger blocks, then trunks of trees, then complete trees, some more than two hundred feet long, tumbled about in confusion or lying just as they were bared by the action of the elements. There seems to be no limit to the deposits—literally thousands of acres and millions of tons.

Let no one expect to see the trees standing upright. They are prone upon the ground, in a vast basin, which was once the bed of an ancient sea. Many of these stone trees are partly covered with earth, but retain their bark, sometimes even the heart, and the cross-sections plainly show how old they

## Odd Rock Formations



Curious Rock Formations, First Forest

## Endless Variety and Charm

are. Even so, the scene presents endless variety and charm, not the least of which is the setting of surrounding cliffs, often rising one hundred and fifty feet in height, and cut up into ravines and sloping mesas, variegated with shale, clay and sandstone—faintly suggesting the Painted Desert—and in that frame of earth may be seen trunks of trees and huge blocks of petrified wood set like garnets.

To one who can spare the time for research there is ample reward for further investigation. Among the neighboring cliff ruins have been discovered proofs that no less than four different Indian stocks have lived here—one probably related to the present Hopi (Moki), another to the Zuni, the other two unknown.

The ethnologist differentiates by means of pottery, especially that which is symbolic in character. Here potsherds are scattered far and wide, revealing the fact that villages of these ancient races were once spread over this whole region. One may here profitably spend a week in delving after antiques.

It is truly marvelous to look upon millions of tons of glistening petrified trees. On some of the slopes, where they lie tumbled together, it is as if whole quarries of marble and onyx had been dynamited. And so varied and bright are the colors, it is as if rainbows had become entangled and conducted to remain on earth.

## One of Many Fallen Giants



A Giant Tree in Third Forest

## The Prime Mystery in Geology

### A FOREST GONE TO BED

[Condensation of an article by MR. CHARLES F. LUMMIS, published in *West Coast Magazine*, January, 1912.]

Of all the Southwestern Wonderland—the most concentrated area on earth of earth's greatest natural marvels—the Petrified Forest is the most puzzling. One guess may be as good as another. The greatest geologists, the greatest botanists, have bumped their inconclusive heads against it in vain. Even Muir, the very Brother of the Trees, has to pull in his horns. It is the Prime Mystery in Geology—the hardest nut, and the hardest wood, in the world.

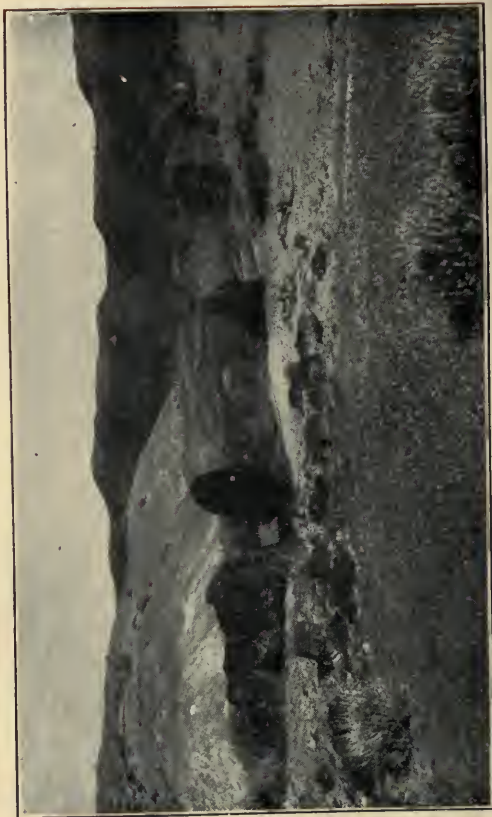
These vast logs are not huddled nor criss-crossed, as of a freshet or a jam, but fallen orderly as God gave them to grow. They are where they grew—but half a mile or so lower, with the under waste of the earth-tissues that gave them root.

Conceive a woodland beside which the tallest groves of Maine or Tennessee would be underbrush. Mostly conifers, but with some willows, cottonwoods or other equivalent deciduous trees.

This forest comes to prime—at least, we have trees of it which stood 240 feet in height, measured "for keeps" in eternal stone.

Something lays this forest low—"maybe a cyclone, maybe a freshet, maybe a submergence." We have no data beyond the fact of the recumbent giants. All that is sure is that

## Sections of Massive Logs



Giants of Prehistoric Times, Second Forest



## Embalmed to Perennial Gems

they fell fair where they stood—and are there a few million years later. They have not drifted or shifted. Then subsidence—either under the immemorial ocean or at least under the inland sea whose shores are still marked on the peaks and rims of the Mogollon Plateau—a little lake about 300 by 200 miles. It was unquestionably a warm sea. The hundreds of volcanic cones, the mineral springs that still persist, show that here was a colossal pickling-plant.

Pressure is the first mechanics of preservation. The pneumatic force used to tuck creosote into every sap-cell of a bull-pine sleeper would be as a lover's pinch compared to the incalculable squeeze that translated these million cords of trunk from burnable firewood to an adamant which the patient combustion of Time cannot even char.

Prostrated in full vigor by some restless force—not a cyclone, or they would show the tangled windfall; not an avalanche of water, or they would be similarly huddled—these great trees laid them down orderly, their heads generally to the South. I can conceive of but one power that can have mowed them down so marshalled—an earthquake of the first dimensions, traveling from the Crest of the Continent southerly.

Anyhow, the trees went down. They were embalmed to perennial gems after they fell. They are cross-cut and dismembered by later

## Among the "Bad Lands"



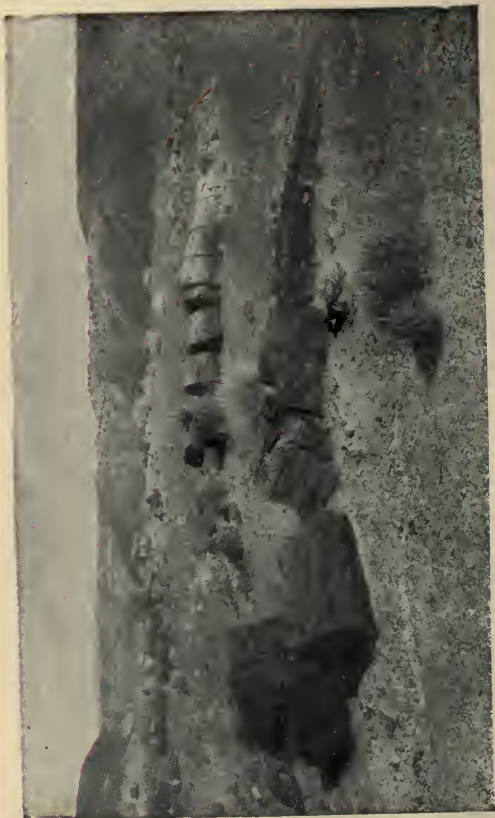
Petrified Forest, "Bad Land"

## A Guess at the Process

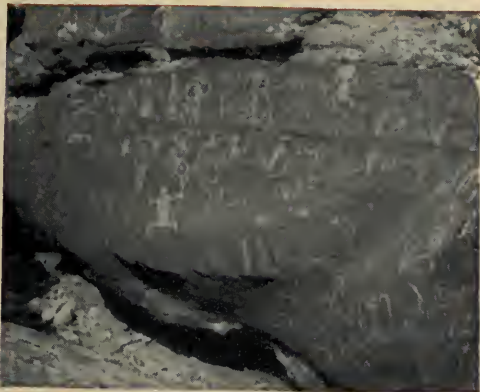
shocks or frosts; then branches shorn and comminuted to litter the ground with kaleidoscopic chips. Even when the full stature of the 200-foot tree is measureable upon the ground, it is rare to find twenty feet in a piece. The fracture is an almost perfect cross-section; but nothing in human knowledge is more obvious than that these breaks were subsequent to the utter fossilization of the trunks. Anything retaining the merest vestige of ligneous fibre could no more break thus than a live hen could be cracked over your knee to a perfect cross-section—including the very halves of the feathers. Equally the matched ends between fractures prove absolute continuity in the process of agatizing.

Somewhere during the stupendous subsidences of the Jurassic period this prone mesozoic forest sank to where the vast later sediments of the Cretaceous era could wash down upon it, mile-deep. In these deep bowels of the earth, the springs of sulphur, iron, copper, salt; the paste of chalcedony, the solutions of silica still rumbled; and the pressure that would break the ribs of a Dreadnought as an elephant might efface a gnat, injected these mineral waters into every fibre of the one-time wood. Of course it went slowly—the pressure increasing only as the trunk hardened to resist. Else we should have nine-foot trees "pressed" in the geologic book as flat as we press a flower in

## The Wonderful Second Forest



## Examples of Picture Writing



Aztec Hieroglyphics near Adamana



More Aztec Hieroglyphics

## It is all Yours Today

the family Bible. The mineralization must have been contemporaneous with the first coverlet of sediment—or ahead of it. No mere wooden tree could have withstood the impact of two miles of perpendicular stone to the square inch.

And then what we are pleased to call the Tertiary Age; and the vast emergence of sunken water-logged continents to God's forgotten sunlight—by an upheaval so judicious and so balanced that it did not ruffle the sedimentary blankets—nor the sheets nor other bedclothes—of a sleeping world. And the forgotten Forest came up to the top of the continent again, then cuddled under a mile or so of cretaceous counterpanes. Even now it is a mile above the sea.

And the erosions and corrosions of aeons, the moths of geology, began to eat the bedclothes; and blanket after blanket traveled away by grains of sand to fill the womb of the far Pacific with the embryo of continents yet unguessed. Strata by the thousand feet were devoured away by that slow, implacable tooth. And in the fullness of the ages the immortal Forest came back to the sunlight, where once its myriad leaves danced and breathed a mortal air—the same fierce Arizona sun under which it dazzles our eyes to-day.

To-day this is all Yours. You sleep on a Santa Fe Pullman till time to get up. You

## Chips of a Petrified Rainbow

transfer to a comfy hotel; and are shown these pages of the Past, with such commentary as the world's greatest geologists have been able to supply. And the documents are there—plainer than anything.

You can photograph yourself on "The Bridge" of a 150-foot fossil tree across an arroyo, or on the thicker trunks athwart the clay-mounds; or under the cannon-like sections mounted on carriages of crumbling shale.

But you can carry away—and without sagging your suitcase—a million tons of memories. You never saw such logs before, nor such chips, nor a footing so studded with iridescence; and you'll remember it as one of the greatest experiences of life, no matter how traveled. The Forest doesn't need you or me. Its wonder-mosaics have flashed back to the Arizona skies since long before Man began to infest the planet and boggle over its geologies. But *we* need the *Forest*. It ought to be made Compulsory!

### AZTEC RUINS AND HIEROGLYPHICS

Occasional ruins of prehistoric Indian settlements are encountered in the Petrified Forest region. Some comprise a solitary habitation only. Others show that several families were housed together. A few indicate the presence of villages numbering many inhabitants.

## Prehistoric Cliff Dwellings

About a mile from the petrified bridge may be seen the crumbling ruins of a small pueblo, with its plaza surrounded by houses averaging ten feet square and a tiny graveyard. The walls fell long ago, but their position easily can be determined.

In the North Forest, on the edge of the Painted Desert, are the ruins of a dwelling built of fragments of petrified wood; a similar deserted edifice is found in the Third Forest, eighteen miles distant.

The largest of these homes of the ancients is called the Aztec Ruins and Hieroglyphics. It lies two and a half miles east of Adamana. Here are walls of broken stone and mortar about a foot high, which mark numerous dwellings fronting a plaza 130 feet wide by 210 feet long. Near the plaza's center a small kiva has been discovered, similar to those in use by the Pueblo Indians of to-day. The flagstone pavement of this old kiva is in a good state of preservation.

The Hieroglyphics are near by. They are cut in the stones of the cliff for a mile or more. The "cutting," however, seems to have been done by pecking the smooth rock surface with some harder stone like petrified wood, rather than with a metallic instrument.

The symbols in the first group, and in many following, are conventional and not easy to decipher. Further on, in a recess of the cliff, is a large upright rock slab on

## Important Notice to Visitors

which are shown a lone man, a bird and an animal. The next record of interest is perhaps that of a royal wedding. The figures are dancing and rejoicing, while a priest holds in one hand a rod and in the other the bird of wisdom.

Almost at the top of the mesa, and not far from the Aztec Ruins, may be seen hieroglyphics of flocks and herds, with symbols of disaster and increase.

### IMPORTANT NOTICE

The three forests south of the railroad are a National Monument, created by Executive Act of December 8, 1906, and under control of the Department of the Interior. Within the boundaries of this monument are situated the most important deposits, which are thereby protected from spoliation and kept intact for the enjoyment of visitors.

A heavy penalty (fine or imprisonment, or both) is imposed for injuring, destroying or appropriating petrified wood and other objects of antiquity in this area. The only exception is in the case of persons representing certain educational institutions and museums, and then only under a special permit, restricting operations to limited areas termed "collecting grounds."

Fortunately, there is abundant material outside the National Monument which visitors may take at will.

## Good Bye, and Come Again!



Aztec Ruins South of Adamana



Cliff Dwellings near Holbrook

## ADVERTISEMENT

The Petrified Forest is reached only via the Atchison, Topeka & Santa Fe Railway System.

It may be visited either as a separate trip or in connection with the Grand Canyon and California tours, for which latter round-trip excursion tickets are on sale at reduced fares every day in the year.

All who have seen the Petrified Forest say it is well worth visiting. Many travelers esteem it one of the greatest of Arizona's wonders. The trip is recommended as a unique experience.

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Passenger Traffic Manager, A. T. & S. F. Ry.  
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**JOHN J. BYRNE**

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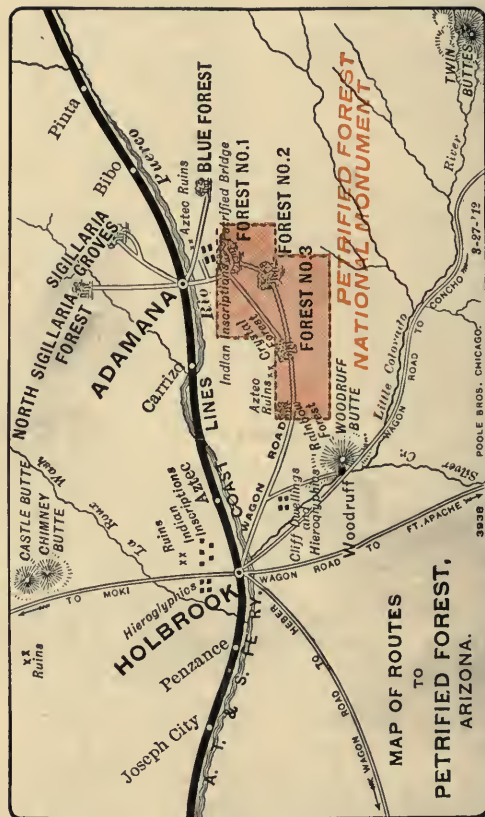
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